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	unc.	lin.
Longitudo ab apice rostri ad caudæ basin	16	0
——————————— basin auris	2	9
——————— *tarsi digitorumque*.....	2	6
——————— *auris*	0	11
——————— *caudæ*	15	0

The Gambia Pouched-Rat is about double the size of the common Rat (*Mus decumanus*); in its colouring and proportions it greatly resembles that animal; the fur is rather harsher, and more scanty: the general colour of the upper parts of the body is a trifle paler than in *Mus decumanus*. The head is tolerably long, and pointed; the ears are of moderate size and rounded form; the feet are of moderate size; the tail is nearly equal to the head and body in length, thick at the base, covered with small adpressed harsh hairs; but these are not sufficiently numerous to hide the scales; about one third of the tail at the base is of a deep brown colour, the hairs covering the remaining portion are pure white, and the skin itself has evidently been of a paler hue than on the basal part of the tail. The fur on the body is somewhat adpressed, and the hairs are glossy on the back; they are of an ashy-gray colour at the base; the apical half of each is brownish-yellow, but at the points many of them are brownish; many longer hairs intermixed with the ordinary fur of the back are almost entirely of a brownish-black colour. The whole of the under parts of the head and body and inner side of the limbs are white; the hairs on the belly are rather scanty, and of an uniform colour to the root: the fore feet are whitish, and the tarsi are white, but clouded with brown in the middle. The ears are but sparingly clothed with short hairs, which on the inner side are whitish, and on the outer brown.

January 14 and 28th, 1840.—William Yarrell, Esq., Vice-President, in the Chair.

Mr. Ogilby read his paper entitled 'A Monograph of the Hollow-horned Ruminants,' of which the following is an abstract :—

"In revising the history of the *Ruminantia*," says Mr. Ogilby, "the zoologist who, like myself, has made a special study of these animals, must be forcibly struck with the confusion of synonyms, the carelessness and inaccuracy of description, the vague and indefinite limits of the generic and subgeneric groups, the trivial and confessedly empirical principles of classification, and, as a consequence, the great number of nominal species, and the general disorder which still prevail in this department of Mammalogy." He proceeds to show that the views of the modern writers on this subject are no

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The Gambia Pouched-Rat is about double the size of the common Rat (*Mus decumanus*); in its colouring and proportions it greatly resembles that animal; the fur is rather harsher, and more scanty: the general colour of the upper parts of the body is a trifle paler than in *Mus decumanus*. The head is tolerably long, and pointed; the ears are of moderate size and rounded form; the feet are of moderate size; the tail is nearly equal to the head and body in length, thick at the base, covered with small adpressed harsh hairs; but these are not sufficiently numerous to hide the scales; about one third of the tail at the base is of a deep brown colour, the hairs covering the remaining portion are pure white, and the skin itself has evidently been of a paler hue than on the basal part of the tail. The fur on the body is somewhat adpressed, and the hairs are glossy on the back; they are of an ashy-gray colour at the base; the apical half of each is brownish-yellow, but at the points many of them are brownish; many longer hairs intermixed with the ordinary fur of the back are almost entirely of a brownish-black colour. The whole of the under parts of the head and body and inner side of the limbs are white; the hairs on the belly are rather scanty, and of an uniform colour to the root: the fore feet are whitish, and the tarsi are white, but clouded with brown in the middle. The ears are but sparingly clothed with short hairs, which on the inner side are whitish, and on the outer brown.

January 14 and 28th, 1840.—William Yarrell, Esq., Vice-President, in the Chair.

Mr. Ogilby read his paper entitled 'A Monograph of the Hollow-horned Ruminants,' of which the following is an abstract :—

"In revising the history of the *Ruminantia*," says Mr. Ogilby, "the zoologist who, like myself, has made a special study of these animals, must be forcibly struck with the confusion of synonyms, the carelessness and inaccuracy of description, the vague and indefinite limits of the generic and subgeneric groups, the trivial and confessedly empirical principles of classification, and, as a consequence, the great number of nominal species, and the general disorder which still prevail in this department of Mammalogy." He proceeds to show that the views of the modern writers on this subject are no

Cricetomys Gambianus. *Cri. magnitudine corporis duplo, vel plus, majore quàm in* Mure decumano *: colore ferè eodem : auribus mediocribus, pilis minutis vestitis ; caudâ corpus cum capite æquante ; pedibus mediocrè parvis ; vellere brevi, adpresso, et subrigido ; colore cinerescenti-fusco ; pedibus partibusque inferioribus sordidè albis ; caudâ ad basin, pilis intensè fuscis, ad apicem, albis, obsitâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin	16	0
——————————— basin auris	2	9
——————— *tarsi digitorumque*.....	2	6
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more philosophical than those of their predecessors, and that as regards their generic distribution, the Ruminantia remain at present in very nearly the same state as that in which Ray left them a hundred and fifty years back.

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To the eight genera established by De Blainville, Desmarest added three others, two of which, viz. the separation of the Antelopes proper from the Koodoo and Boshbok, and of the Oryxes, were decided improvements.

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The form or curvature of the horns, the beard, the dewlap, the scopæ, the number of teats, and other such diagnoses hitherto employed to define the genera of Ruminants, according to the views of Mr. Ogilby, are purely trivial and accidental characters, which not only exercise no assignable influence on the habits or economy of the animals, but which may be modified to any extent, or even destroyed altogether, without in the slightest degree changing the generic relations.

Having demonstrated the imperfections of the actual distribution of hollow-horned Ruminants, Mr. Ogilby proceeds to the exposition of the principles which he proposes to make use of for that purpose, and to explain the nature and extent of his own researches. He insists upon the law of classification, that no generic characters should be admitted but such as are founded upon the necessary relations that subsist between the organic structure of animals and their habits and economy.

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The distinctions between the horns of the stag tribe generally, and those of the hollow-horned Ruminants, are pointed out, and in the next place the various modifications observable in the horns and their core of the latter group. "In some cases the substance of this bony core is solid, or at least penetrated only by minute pores; in others, and they are by far the greater number, it is partially hollow, or filled with large cancelli, which communicate with the frontal sinuses. These variations are not confined to any particular groups, but are equally common to solid and hollow-horned genera. The giraffe, for instance, has very extensive cancelli; so likewise have the oxen, sheep, goats, and all the larger species hitherto classed among the antelopes: nor have I found the solid core, so much insisted on by MM. Cuvier and Geoffroy St. Hilaire, in any of these animals, except the *A. Cervicapra*, the *Dorcas*, and their allied species."

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The form or curvature of the horns, the beard, the dewlap, the scopæ, the number of teats, and other such diagnoses hitherto employed to define the genera of Ruminants, according to the views of Mr. Ogilby, are purely trivial and accidental characters, which not only exercise no assignable influence on the habits or economy of the animals, but which may be modified to any extent, or even destroyed altogether, without in the slightest degree changing the generic relations.

Having demonstrated the imperfections of the actual distribution of hollow-horned Ruminants, Mr. Ogilby proceeds to the exposition of the principles which he proposes to make use of for that purpose, and to explain the nature and extent of his own researches. He insists upon the law of classification, that no generic characters should be admitted but such as are founded upon the necessary relations that subsist between the organic structure of animals and their habits and economy.

The next section of the monograph is devoted to the consideration of the horns of the *Ruminantia*. Under this head the author first treats of their substance; 2ndly, their permanent or deciduous character; 3rdly, their presence or absence in different genera and sexes; and 4thly, their number, forms, and flexures.

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The presence or absence of horns in species or sexes has been partially employed by naturalists for the distinction of genera; the importance of this character, however, in the opinion of the author, has not been duly appreciated. Its effects on the habits and œconomy of the species of Ruminants is pointed out. The gentleness and timidity of those species which have hornless females, their being either perfectly monogamous, or residing in small detached families, composed of a single adult male and variable number of females, and the circumstance of the males adhering throughout life to the same female, are all phænomena which are traceable to the defenceless condition of the females. These phænomena are contrasted with those exhibited by Ruminants, in which there are horns in both sexes; they are said to be extremely bold, to reside generally in large herds, and to have a community of sexual intercourse, and rarely attach themselves to particular individuals.

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be derived from the crumens and other glands, or certain pits or sinuses which open externally, especially in different parts of the head in ruminating animals. The most remarkable, as well as the most common of these are the suborbital, sometimes called the lachrymal sinuses, or tear-pits, but which Mr. Ogilby distinguishes by the name of *crumens*, a term applied to them by Dr. Flemming. These are situated at a short distance below the inner canthus of the eye, and received into a cavity of the lachrymal bone; at their bottom is a gland, opening into the crumen by a number of small apertures, and secreting a viscous substance, of the consistence of ear-wax. The various modifications of the form of these crumens in different Ruminants being pointed out in the paper, the author proceeds to the consideration of their functions and uses: he observed that the Gazelles and Antelopes in the Society's menagerie frequently protruded this crumen, and rubbed its inner surface against the rails of the compartments in which they were confined, seeming to take a pleasure in smelling and licking it afterwards. A male and female Gazelle, occupying contiguous compartments, were changed, and it was found that they immediately discovered the viscous deposit, and became restless and agitated; the male Gazelle was some days after made to change places with an Indian Antelope, but neither animal appeared to take the slightest notice, or to be aware of the presence of its predecessor. "This, to be sure," says Mr. Ogilby, "is but a single experiment, but it countenances the idea, highly probable in itself, that the deposit which the animals leave behind them by rubbing the crumens against the shrubs or stones of their desert and mountain habitats, (for it is only the inhabitants of such localities that are furnished with these organs, at least among the hollow-horned family,) may serve to direct them in their wanderings and migrations, when the storms and fogs incident to such places obscure all visible landmarks. But whatever it may be, the principles of sound philosophy and the great doctrine of design forbid us to entertain the notion that so remarkable an organ has been formed without some special and appropriate function in animal œconomy."

A superficial slit, situated in a depression of the maxillary bone, on either side, called by the author the maxillary sinus, is found in certain Ruminants hitherto classed among the Antelopes; its secretion is of a thin watery consistence, and thus differs from the secretion of the crumens. The situation of these glands, and their peculiar secretion, induces the author to regard them as distinct organs, and he doubts their coexistence with the crumens, though M. F. Cuvier and Colonel Smith have reported such sometimes to be the case.

The membranous sac which opens behind the ear of the *Chamois*, and the large gland which Mr. Hodgson describes in the nose of the *Chiru*, are of too partial occurrence to be made available in generic characters; there are, however, two large and deep sacs, situated one on each side of the udder, which are of pretty general occurrence, but their function does not appear to exercise sufficient influence over the animal œconomy to entitle them to be considered among the

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LINNÆAN SOCIETY.

April 7th.—Mr. Forster, V.P., in the Chair.

Dr. Farre, F.L.S., exhibited specimens of a singular form of gall on the leaves of a species of oak from Mexico. The gall consisted of an aggregation of hollow cylindrical tubes, nearly an inch in length, and furnished with a fringed orifice. The tubes were remarkable for their elegance and uniformity; their colour was white, suffused with red, especially towards the apex.

Mr. Yarrell, F.L.S., exhibited a specimen of a satin-like mass of *Conferva fluviatilis*, which grew in a water meadow near Totness. A spring, which flows only in winter, rises in the meadow, and this substance is taken from narrow gutters, from one of which, twelve inches wide, a piece was taken up which measured seventy-nine feet in length, so firm and tough was its consistence; and another piece broke off at thirty-nine feet. In consistence and appearance it bore considerable resemblance to a piece of cotton wadding, but of a firmer texture. A portion was carefully examined under the microscope, and found to consist entirely of an interwoven mass of filaments of *Conferva fluviatilis*. The plant was compared with the authentic

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Read, a paper by John Blackwall, Esq., F.L.S., entitled "The Difference in the Number of Eyes with which Spiders are provided, proposed as the Basis of their distribution into Tribes; with the characters of a new Family and three new Genera of Spiders."

Mr. Blackwall begins by stating his objections to the bases of arrangement adopted by MM. Walckenaer and Dufour in the subdivision of the order *Araneidea*, and proceeds to give his reasons for preferring a division founded on the number of eyes; in conformity with which he proposes three tribes, viz. 1. *Octonoculata*; 2. *Senoculina*; 3. *Binoculina*.

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These observations have reference chiefly to the relative position of the parts of the flower in the tribe of plants above-mentioned. The author remarks, that the stamina, placentæ, and stigmata in these plants, are disposed in the same line, and opposite the inner series of the perianthium. The placentæ are always invariably double; and the stigmata in such cases as the present are to be regarded as being made up of the confluent margins of the two adjoining carpel-leaves, as suggested by Mr. Brown in his learned Memoir on *Cyrtandreæ* lately published.

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This day, the Anniversary of the birth-day of Linnæus, and that appointed in the Charter for the election of Council and Officers; the President opened the business of the meeting, and in stating the number of Members whom the Society had lost during the past year, gave the following notices of some of them:—

George, Duke of Marlborough, one of the Honorary Members, was distinguished for his botanical taste, and for his zeal in the cultivation of exotic plants; and the magnificent collection formed by him at White Knights was long one of the finest in this country, both in

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George, Duke of Marlborough, one of the Honorary Members, was distinguished for his botanical taste, and for his zeal in the cultivation of exotic plants; and the magnificent collection formed by him at White Knights was long one of the finest in this country, both in

regard to its extent, and the rarity and beauty of the specimens. His taste for Botany continued unabated to the last, and the collection established afterwards at Blenheim was chiefly cultivated under his own immediate superintendence.

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He became a Fellow of the Society of Antiquaries in 1820, and was likewise Fellow of the Astronomical and Geological Societies. He continued to perform the office of Treasurer of the Royal Society, till in 1827 he became President of that distinguished body. In the year 1831 he retired from the chair, and was succeeded by His Royal Highness the Duke of Sussex. In 1832 he received from the University of Oxford the Degree of Doctor of Laws, by Diploma.

His last visit to his native county took place in 1839. On leaving Cornwall he came through Exeter and Oxford to London, and returned after a few days to Oxford. This last journey, which was attended by some untoward circumstances, was too much for his sinking strength. On his return to London he fell into a state of lethargy, from which, though he was enabled to reach his home, he never fully recovered, but after lingering in this state for some time he expired, on the 24th of December, 1839, and in the 73rd year of his age.

The Rev. Joseph Goodall, D.D., Provost of Eton College.—Dr. Goodall was ardently devoted to the study of Natural History, but more especially to Conchology, with which science he was thoroughly acquainted, and his collection in that department was regarded as one of the most valuable in this country. He was ever a warm and zealous friend of this Society.

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The President also announced that seventeen Fellows and four Associates had been elected since the last Anniversary.

It was then moved by the President, and unanimously agreed to by the meeting, That the cordial thanks of the Society be given to Dr. Boott on his retirement from the office of Secretary, for the incessant attention which he has shown to the duties of that office, and the ability, zeal, and urbanity with which he has discharged those duties.

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June 2.—Mr. Forster, V.P., in the Chair.

Mr. George Francis, F.L.S., exhibited a portion of the trunk of the *Lepurandra saccidora* (Graham Cat. Bomb. Pl. p. 193.), from Western India, of the bark of which sacks and bags are made.

Mr. Rauch exhibited a specimen of the fruit of *Salisburia adiantifolia*, which ripened last year in the Imperial Gardens at Schœnbrunn, near Vienna.

Read, "On the reproductive Organs of *Equisetum*." By Mr. Joseph Henderson, Gardener to Earl Fitzwilliam, at Milton Park, communicated by the Rev. M. J. Berkeley, F.L.S. Mr. Henderson's observations were made on *Equisetum hyemale* and other species, and embrace the entire period of development of the sporæ and of the thecæ containing them. The theca is in the first instance filled with cells of extreme tenuity, in the interior of which the sporæ afterwards take their origin. After the appearance of the sporæ the containing cells gradually become thickened, and separate from each other; and at a still later period their walls are marked by spiral sutures, by means of which they are subdivided into two narrow bands with broad and rounded ends. As the sporæ approach maturity these bands separate at the sutures, and the containing cell is thus resolved into its component parts, the supposed filaments and antheræ of Hedwig. The sporæ, when ripe, have a double membrane, which is rendered evident by the addition of tincture of iodine. In the immature state of the thecæ, up to the time when the spiral lines become distinctly marked on the integument of the sporæ, they form transparent membranous reticulated bags, the meshes of which have different directions in different parts. When the sporæ have attained their full size, a new deposit of vegetable matter is added, and spiral vessels are formed within the flattened cells of which the membrane is composed, and the

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Mr. Rauch exhibited a specimen of the fruit of *Salisburia adiantifolia*, which ripened last year in the Imperial Gardens at Schœnbrunn, near Vienna.

Read, "On the reproductive Organs of *Equisetum*." By Mr. Joseph Henderson, Gardener to Earl Fitzwilliam, at Milton Park, communicated by the Rev. M. J. Berkeley, F.L.S. Mr. Henderson's observations were made on *Equisetum hyemale* and other species, and embrace the entire period of development of the sporæ and of the thecæ containing them. The theca is in the first instance filled with cells of extreme tenuity, in the interior of which the sporæ afterwards take their origin. After the appearance of the sporæ the containing cells gradually become thickened, and separate from each other; and at a still later period their walls are marked by spiral sutures, by means of which they are subdivided into two narrow bands with broad and rounded ends. As the sporæ approach maturity these bands separate at the sutures, and the containing cell is thus resolved into its component parts, the supposed filaments and antheræ of Hedwig. The sporæ, when ripe, have a double membrane, which is rendered evident by the addition of tincture of iodine. In the immature state of the thecæ, up to the time when the spiral lines become distinctly marked on the integument of the sporæ, they form transparent membranous reticulated bags, the meshes of which have different directions in different parts. When the sporæ have attained their full size, a new deposit of vegetable matter is added, and spiral vessels are formed within the flattened cells of which the membrane is composed, and the

Baron Jacquin possessed an amiable and obliging disposition, and was distinguished for his urbanity and kindness, especially to strangers; and few cultivators of science visited the Austrian capital without partaking of his good offices and hospitality. He died at Vienna, on the 10th of December, in the 74th year of his age.

The President also announced that seventeen Fellows and four Associates had been elected since the last Anniversary.

It was then moved by the President, and unanimously agreed to by the meeting, That the cordial thanks of the Society be given to Dr. Boott on his retirement from the office of Secretary, for the incessant attention which he has shown to the duties of that office, and the ability, zeal, and urbanity with which he has discharged those duties.

At the election, which subsequently took place, the Lord Bishop of Norwich was re-elected President; Edward Forster, Esq., Treasurer; John Joseph Bennett, Esq., Secretary; and Richard Taylor, Esq., Under-Secretary. The following five Fellows were elected into the Council in the room of others going out; viz. Thomas Bell, Esq., George Loddiges, Esq., Gideon Mantell, Esq., LL.D., Richard Horsman Solly, Esq., and Sir George Thomas Staunton, Bart.

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